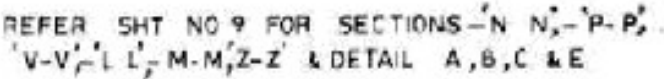
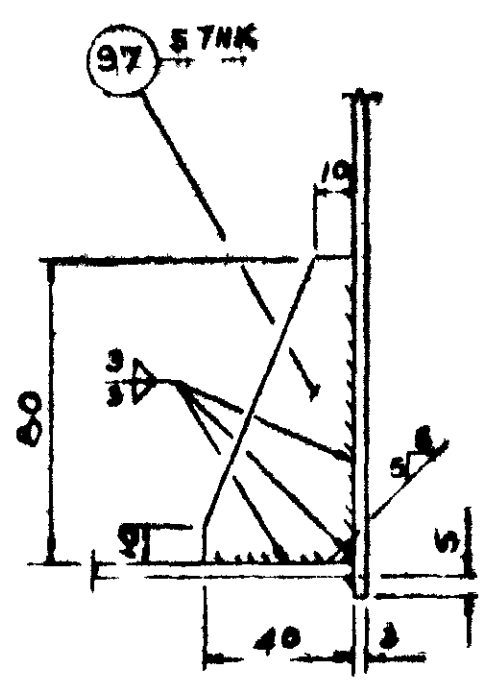
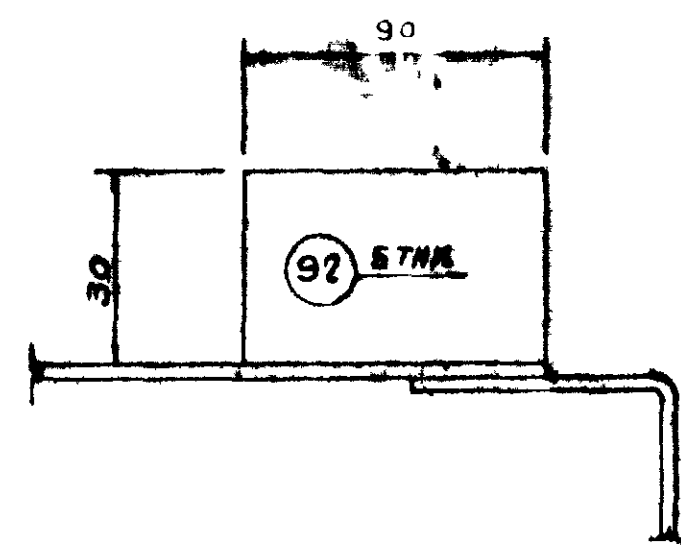


Sl No	Bidder Query	CPCL Response
1	<p>For Tag no 15-C-15, we request you to share the sheet no 9 for both CT#5 and CT#6 which has additional dimension pertaining to the Chimnev Trav. Please refer the screenshot below for your reference.</p> 	<p>Drawing No: 5647-14-00-HM-E016 sheet 9 of 22 is attached</p>
2	<p>Vacuum Column (15-C-15) - Kindly confirm, lattice girder is need to be taken in our scope? If yes, then kindly provide MOC of lattice girder, because same is not mentioned in provided drawings.</p>	<p>lattice girder is required and please find the attached BOM.(Refer Attached Drgs - 15C-15 BOM Sheet 10 of 22 to 21 of 22)</p>
3	<p>16-C-01 - Please confirm, major beam is need to be taken or not in our scope? Kindly provide above details to proceed with the enquiry,</p>	<p>Beam is weld attachment of TSR, same is not required.</p>

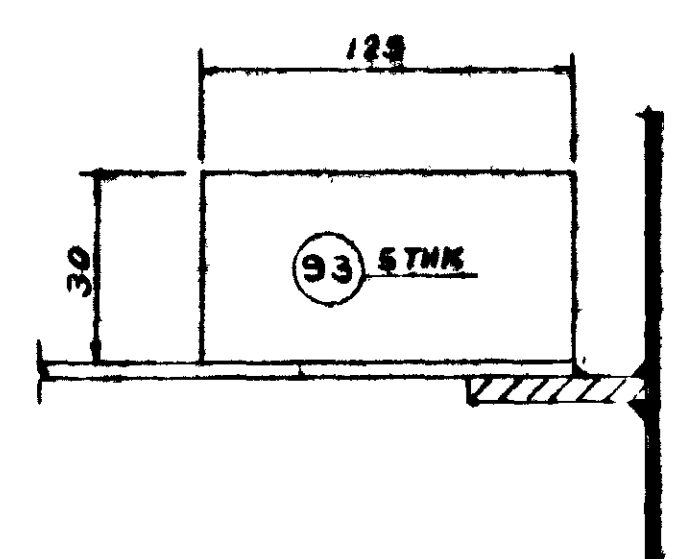
This drawing and the design of covers are the property of ENGINEERS INDIA LIMITED. They are strictly intended for use on the project for which they were prepared and shall not be reproduced, copied, loaned, exhibited, or used except in the limited way and within the limits set forth by letter to the borrower.



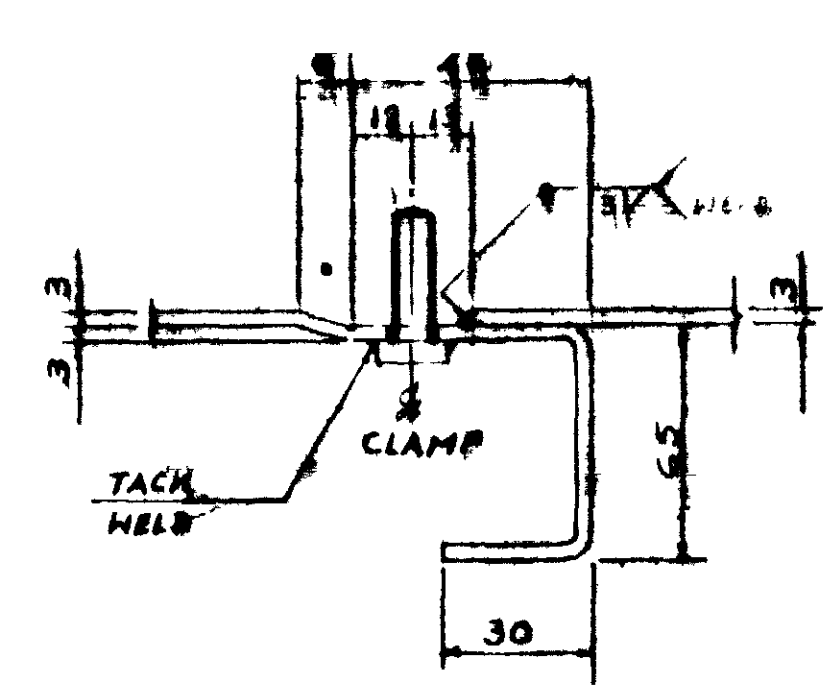
DETAIL AT A



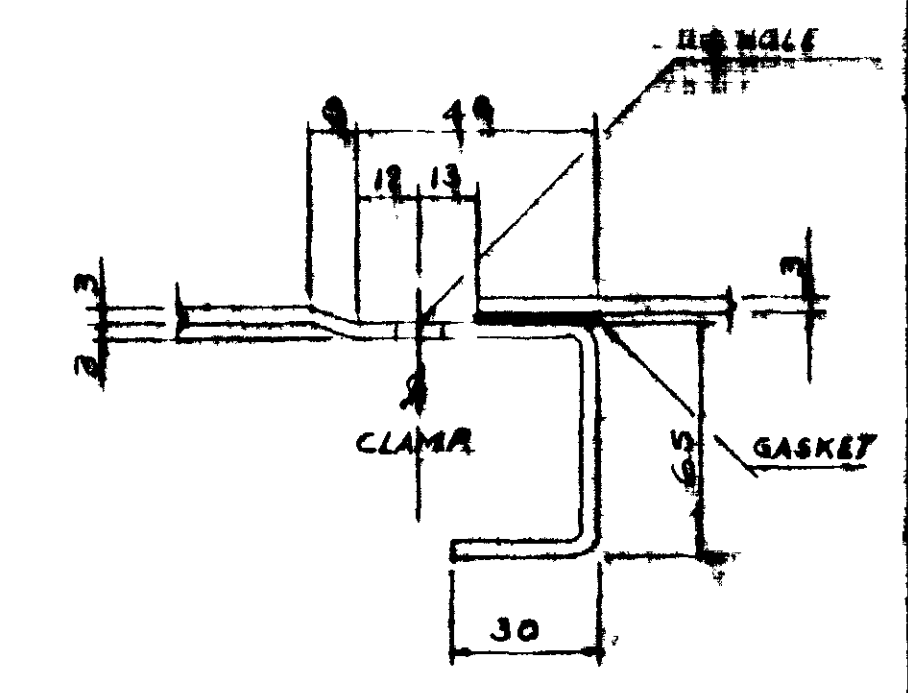
VIEW FROM D



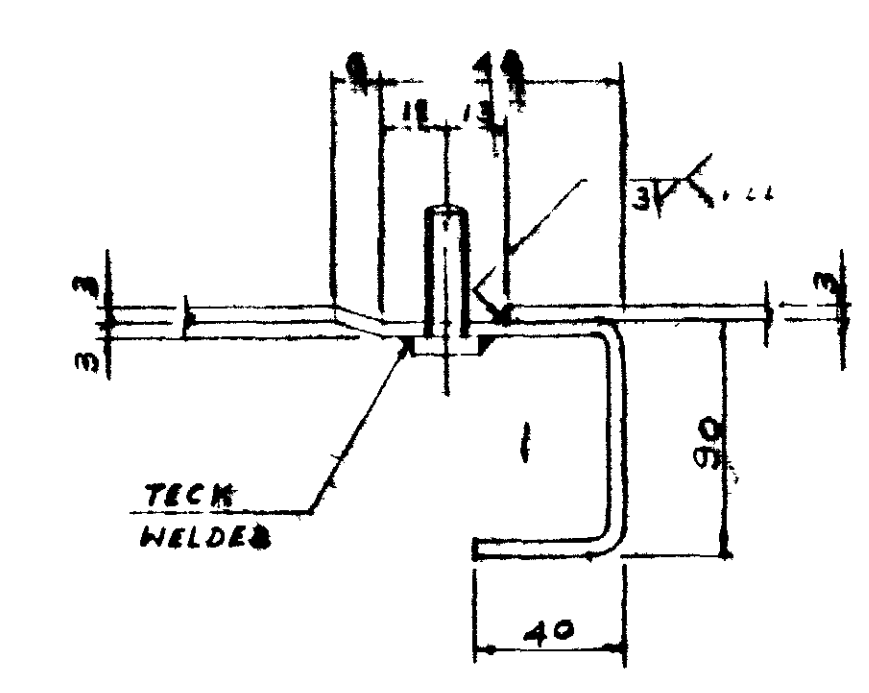
VIEW FROM F



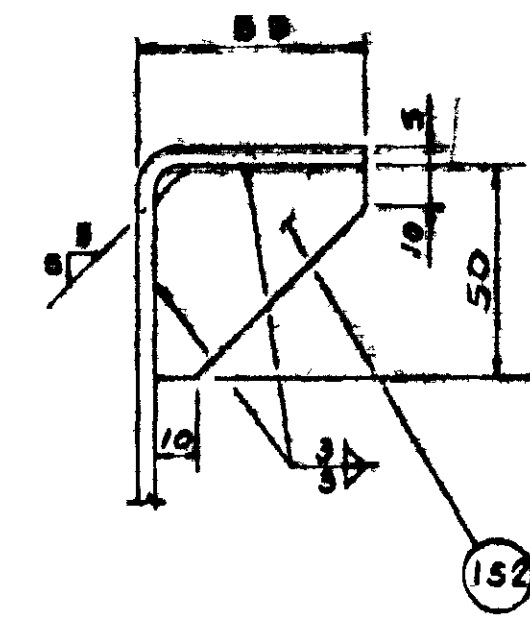
SECTION - L-L



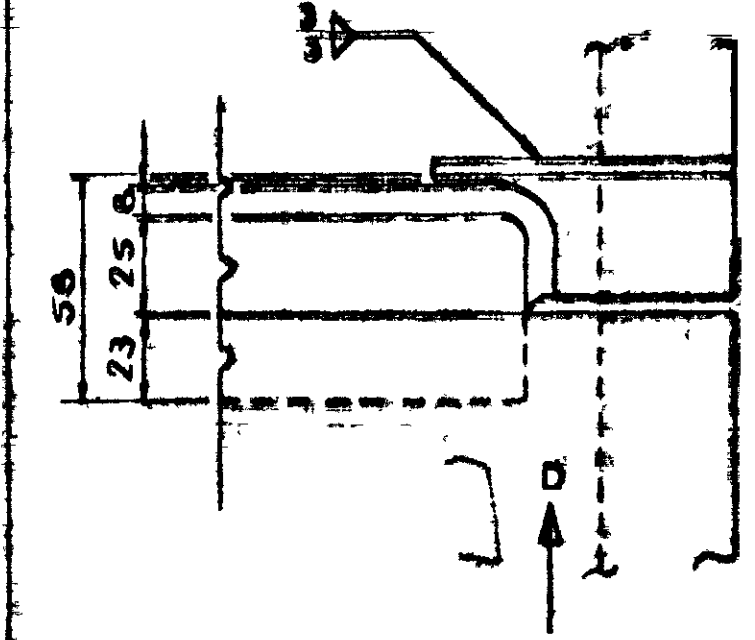
SECTION - N-N



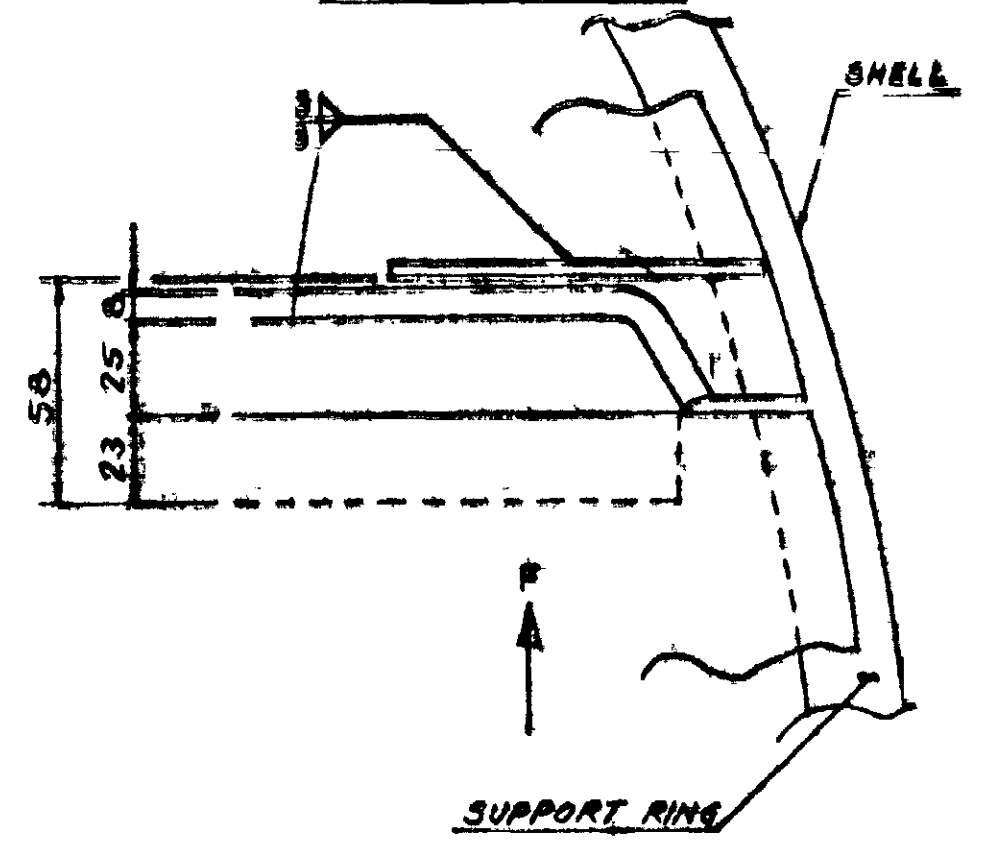
SECTION - V-V



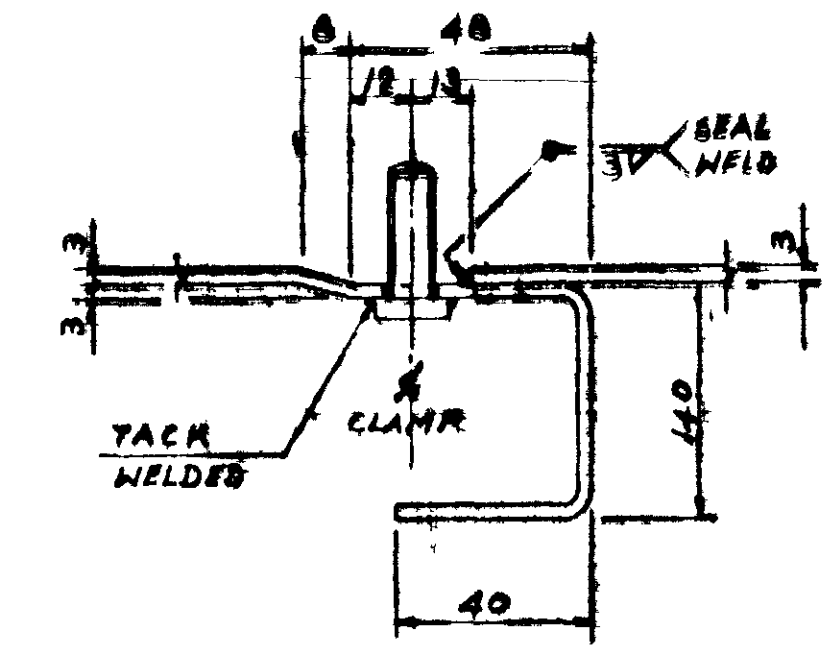
DETAIL AT B



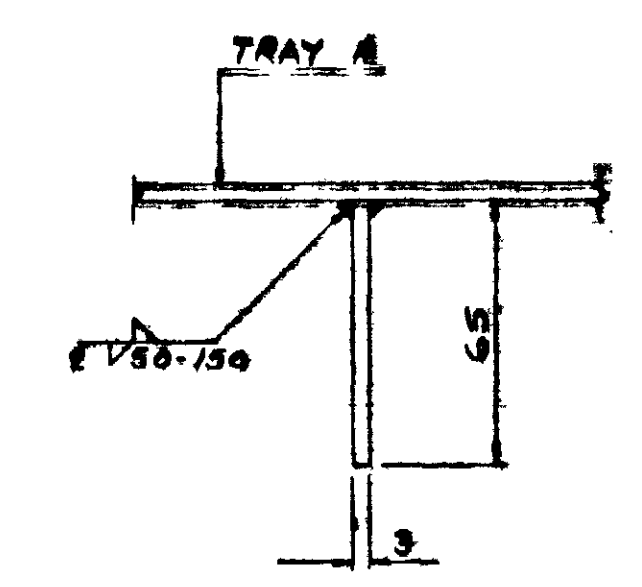
DETAIL AT C



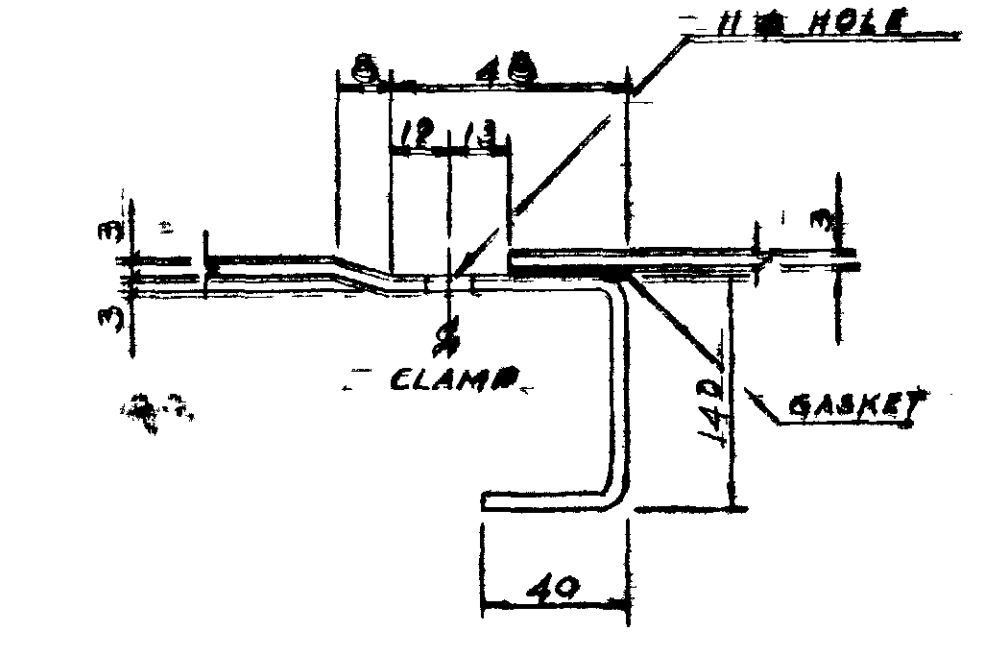
DETAIL AT E



SECTION - M-M



SECTION - P-P



SECTION - Z-Z

REFERENCE DRAWING NO. 15-C-15

NOTES -
1 ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED

NO.	DATE	REVISIONS	BY	CHKD.	APPD.	PRD.
0		ISSUED FOR CONSTN				
A		ISSUED FOR APPROVAL				
ENGINEERS INDIA LIMITED NEW DELHI - BOMBAY - BANGALORE						
MRL EXPANSION						
CRUDE DISTILLATION UNIT						
DETAILS OF CHIMNEY TRAY FOR VACUUM COLUMN						ITEM NO 15-C-15
SCALE	JOB NO.	DRAWING NO.		REV.		
N.T.S.	5647	5647-14-00-HM-E016				
SHEET 9 OF 22						

CRUDE DISTILLATION UNIT
M R L EXPN

NO	DATE	REVISIONS	BY	CHK	APPROVALS
A		ISSUED FOR APPROVAL	<i>[Signature]</i>		
0	15-68	ISSUED FOR CONSTN	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

ITEM NO	NO. OFF	DESCRIPTION	THICKNESS (mm)	MATERIAL	PART DRA NO 5647-14-00 HMA-226 SNT NO
1	16	TRAY DECK PLATE	3	A 240 TYPE 410S	1
2	48	" . . .	"	" "	2
3	16		"	" "	3
4	-				
5	-				
6	1	"	3	A 240 TYPE 410S	4
7	4	"	"	" "	5
8	2		"	" "	6
9	2	"	"	" "	7
10	2		"	" "	8
11	2	"	"	" "	9
12	2	"	"	" "	10
13	2	"	"	" "	11
14	2	"	"	" "	12
15	2	"	"	" "	13
16	2	"	"	" "	14
17	2	"	"	" "	15
18	2	"	"	" "	16
19					
20					
21					
22					
23					
24					

This drawing and the design it covers are the property of ENGINEERS INDIA LIMITED. They are not to be reproduced, copied, loaned, or used in any way without the written consent given by the lender to the borrower. E.L. 1001 A 218 X 278


ENGINEERS INDIA LIMITED
 208 MMTD NEW DELHI

BILL OF MATERIAL
 FOR ITEM NO 15 C-15

DRAWING NO	REV
5647-14-00 HMA016	0
SNT 10 OF 22	

CRUDE DISTILLATION UNIT
M.R.L. EXPN

NO	DATE	REVISIONS	BY	CHK	APPROVALS
A		ISSUED FOR APPROVAL	KSR		
O	15-6-82	ISSUED FOR CONSTN	KSR	YUN	19/2

This drawing and the design it covers are the property of ENGINEERS INDIA LIMITED. They are not to be used in any way and private use is prohibited by any written consent given by the lender to the borrower. EIL 1002 A 216 X 273

ITEM NO	NO OFF	DESCRIPTION	THICKNESS mm	MATERIAL	PART DRG NO 5647-14-00-HM-A-26 SHT NO
49	4	TRAY DECK PLATE	3	A 240 TYPE 4105	28
50	2	" "	"	" "	29
51	1	" "	"	" "	30
52	1	" "	"	" "	31
53	1	" "	"	" "	32
54	1	" "	"	" "	33
55	1	" "	"	" "	34
56	1	" "	"	" "	35
57	2	" "	"	" "	36
58	4	" "	"	" "	37
59	4	" "	"	" "	38
60	1	" "	"	" "	39
61	2	" "	"	" "	40
62	2	" "	"	" "	41
63	10	" "	"	" "	42
64	-				
65	2	" "	"	" "	43
66	1	" "	"	" "	44
67	1	" "	"	" "	45
68	1	" "	"	" "	46
69	1	" "	"	" "	47
70	1	" "	"	" "	48
71	1	" "	"	" "	49
72	1	" "	"	" "	50



ENGINEERS INDIA LIMITED
210 HMTL NEW DELHI

BILL OF MATERIAL
FOR ITEM NO 15-C-15

DRAWING NO	REV
5647-14-00-HM-A-016	0
SH- 12 OF 22	

CRUDE DISTILLATION UNIT
MRL EXPN

NO	DATE	REVISIONS	BY	CHK	APPROVALS
A		ISSUED FOR APPROVAL	JLR		
D	15-6-82	ISSUED FOR CONST	JLR	JKR	

ITEM NO	NO OFF	DESCRIPTION	THICKNESS (mm)	MATERIAL	PART DRG NO 5647 14 00 HM A016 SRT NO
73	2	MANWAY PLATE	3	A-240 TYPE 410S	51
74	2	" 440 X 500	"	" "	+
81	8	RISER 220 W x 800 L INSIDE 228 HT	3	A-240 TYPE 410S	52
82	24	RISER 220 W x 1050 L INSIDE 228 HT	"	" "	53
83	24	RISER 220 W x 1550 L INSIDE 228 HT	"	" "	54
84	4	RISER 220 W x 800 L INSIDE 436 HT	"	" "	55
85	12	RISER 220 W x 1050 L INSIDE 436 HT	"	" "	56
86	12	RISER 220 W x 1550 L INSIDE 436 HT	"	" "	57
87	252	RISER CAP SUPPORT	"	" "	58
88	8	RISER CAP 270 W x 850 L	"	" "	59
89	24	RISER CAP 270 W x 1100 L	"	" "	60
90	24	RISER CAP 270 W x 1600 L	"	" "	61
91	11	STIFFENER 65 W x 370 L	3	" "	-
92	158	" 30 W x 90 L	5	" "	-
93	32	" 30 W x 125 L	5	" "	-
94	8	SEALING PLATE	3	" "	62
95	10	" "	"	" "	62
96	10	" "	"	" "	62

This drawing and the design it covers are the property of ENGINEERS INDIA LIMITED and on the borrower's express agreement that they will not be reproduced copied loaned exhibited or used except in the limited way and private use permitted by any written consent given by the lender to the borrower. EIL 1002 A 216 X 278

CRUDE DISTILLATION UNIT M R L EXPN	NO A	DATE	REVISIONS ISSUED FOR APPROVAL	BY KBR	CHECK BY	APPROVALS
	0	15 6 82	ISSUED FOR CONSTN			

ITEM NO	NO OFF	DESCRIPTION	THICKNESS (mm)	MATERIAL	PART DRG NO 5647-14-00-HM-A016 SHT NO
97	288	GUSSET R	9	A 240 TYPE 410S	63
101	4	[70x100x70 - 5260 LG	5	A 240 TYPE 410S	18
102	4	[70x100x70 - 5260 LG	"	"	17
103	16	[50x100x50 - 1460 LG	"	"	64
104	4	[50x100x50 - 1520 LG	"	"	65
105	4	[50x100x50 - 1520 LG	5	"	65
106	12	[50x100x50 - 1460 LG	3	"	66
107	8	[50x100x50 - 1520 LG	"	"	67
108	8	[50x100x50 - 1520 LG	3	"	67
109	4	END PLATE	10	"	68
110	8	GUSSET	"	"	69
111	2	"	"	"	69
112	8	"	"	"	69
113	2	GUSSET	10	"	69
114	4	SEALING R 30WX 525 LG	3	"	-
115	8	SEALING R 30WX 605 LG	3	"	-

This drawing and the design features are the property of ENGINEERS INDIA LIMITED. They are made to order and the borrower's express agreement that they will not be reproduced, copied, loaned, altered, or used except in the limited way and private use permitted by any written consent given by the lender to the borrower.

CRUDE DISTILLATION UNIT
M.R.L. EXPN

NO	DATE	REVISIONS	BY	CHK	APPROVALS
A		ISSUED FOR APPROVAL			
0	15.6.82	ISSUED FOR CONSTN			

This drawing and the design it covers are the property of ENGINEERS INDIA LIMITED. They are made and on the borrower's express agreement that they will not be reproduced, copied, loaned, exhibited, or used in any way and private use is prohibited by any written consent given by the lender to the borrower. E.L. 1002 A 216 X 279

ITEM NO	NO OFF	DESCRIPTION	THICKNESS (mm)	MATERIAL	PART DRG NO 5647-14-00-HM-A016 SHT NO
121	2	DRAW-OFF PAN	5	A240 TYPE 4105	70
122	2	" ANGLE	5	" "	71
123	2	" PLATE	3	" "	72
124	2	" "	"	" "	73
125	2	" "	"	" "	74
126	2	" "	"	" "	75
127	2	" "	"	" "	76
128	2	TRAY DECK PLATE	"	" "	77
129	4	" "	"	" "	78
130	2	" "	"	" "	79
131	2	" "	"	" "	80
132	4	" "	"	" "	81
133	2	" "	"	" "	82
134	2	" "	"	" "	83
135	2	" "	"	" "	84
136	2	" "	"	" "	85
137	8	" "	"	" "	86
138	2	" "	"	" "	87
139	2	" "	"	" "	88
140	2	MANWAY DECK PL	"	" "	89
141					
142					
143					
144					



ENGINEERS INDIA LIMITED
213 HMTD NEW DELHI

BILL OF MATERIAL
FOR ITEM NO 15-C-15

DRAWING NO	REV
5647-14-00-HM-A016	0
SHT 15 OF 22	

CRUDE DISTILLATION UNIT
M R L EXPN

NO	DATE	REVISIONS	BY	CHK	APPROVALS
A		ISSUED FOR APPROVAL	JLR		
O	15-6-82	ISSUED FOR CONSTN	JLR	AKA	RJK

This drawing and the design it covers are the property of ENGINEERS INDIA LIMITED. It is to be used for the purpose for which it is issued and is not to be reproduced, copied, exhibited or used in any way except in the limited way and private use permitted by any written consent given by the lender to the borrower. EIL 1002 A 216 X 279

ITEM NO	NO OFF	DESCRIPTION	THICKNESS IN MM	MATERIAL	PART DRG NO 5647-14-00-HM-A96 SHT NO
146	4	RISER 220 W x 800 L INSIDE 430 HT	3	A 240 TYPE 410S	90
147	12	RISER 220 W x 1050 L INSIDE 430 HT	"	" "	91
148	12	RISER 220 W x 1550 L INSIDE 430 HT	"	" "	92
149	4	RISER 220 W x 800 L INSIDE 463 HT	"	" "	93
150	12	RISER 220 W x 1050 L INSIDE 463 HT	"	" "	94
151	12	RISER 220 W x 1550 L INSIDE 463 HT	"	" "	95
152	6	GUSSET	5	" "	96
153	224	GUSSET	5	" "	97
154	6	SEALING PLATE 125 LC x 19 W	3	" "	-
159	2	L 100 x 70 x 5 - 4440 LG	5	A 240 TYPE 410S	101
160	2	L 100 x 70 x 5 - 4440 LG	"	" "	101
161	4	L 75 x 75 x 5 - 1110 LG	5	A 240 TYPE 410S	102
162	4	L 75 x 75 x 5 - 1110 LG	5	" "	102
163	4	L 75 x 75 x 5 - 1060 LG	"	" "	103
164	4	L 75 x 75 x 5 - 1060 LG	5	" "	104
165	6	L 75 x 75 x 3 - 1060 LG	3	" "	104
166	1	L 75 x 75 x 3 - 1110 LG	"	" "	105
167	1	L 75 x 75 x 3 - 1110 LG	"	" "	105
168	1	L 75 x 75 x 3 - 1075 LG	"	" "	106



ENGINEERS INDIA LIMITED
21A HMT ENCLAVE DELHI

BILL OF MATERIAL
FOR ITEM NO 15-C 15

DRAWING NO	REV
5647-14-00-HM-A016	0
SHEET 16 OF 22	

**CRUDE DISTILLATION UNIT
M R L EXPN**

NO	DATE	REVISIONS	BY	CHK	APPROVALS
A		ISSUED FOR APPROVAL	SIL		
0	15-6-88	ISSUED FOR CONSTN	SIL	MM	K/S

ITEM NO	NO OFF	DESCRIPTION	THICKNESS IN "	MATERIAL	PART DRG NO 5647-14-00-HM-A26 SHT. NO
169	1	L75x75x5 -1075LG	3	A 240 TYPE 4105	106
170	2	END PLATE	10	" "	107
171	4	GUSSET	"	" "	108
172	1	"	"	" "	108
173	4	"	"	" "	108
174	1	GUSSET	10	" "	108
175	2	SEALING PLATE 30Wx405LG	3	" "	-
176	4	SEALING PLATE 30Wx500LG	3	" "	4
177	4	SUPPORT CLIFTS	10	" "	109
181	1	DRAW OFF PAN	5	A 240 TYPE 4105	110
182	1	" "	5	" "	111
183	1	" "	3	" "	112
184	1	" "	"	" "	113
185	1	" "	"	" "	114
186	1	" "	"	" "	115
187	1	" "	"	" "	116
188					
189					
190	2	TRAY DECK PLATE	"	" "	117
191	2	" "	"	" "	118
192	2	" "	"	" "	119

This drawing and the design it covers are the property of ENGINEERS INDIA LIMITED and on the borrower's express agreement that they will not be reproduced, copied, loaned, exhibited, or used except in the limited way and private use permitted by any written consent given by the lender to the borrower. EIL 1002 A 216 X 27A

**CRUDE DISTILLATION UNIT
MRL EXPN**

NO	DA	E	REVISIONS	BY	CHK	APPROVALS
A			ISSUED FOR APPROVAL			
0	05-68		ISSUED FOR CONSTN			

ITEM NO	NO OFF	DESCRIPTION	THICKNESS (mm)	MATERIAL		PART DRG NO 5647-14-00 HM-ALL 307 NO
193	1	TRAY DECK PLATE	3	A	240 TYPE 410S	120
194	1	"	"	"	"	121
195	1	"	"	"	"	122
196	1	"	"	"	"	123
197	1	"	"	"	"	124
198	1	"	"	"	"	125
199	2	"	"	"	"	126
200	2	"	"	"	"	127
201	2	"	"	"	"	128
202	1	"	"	"	"	129
203	2	"	"	"	"	130
204	1	"	"	"	"	131
205	1	"	"	"	"	132
206	1	"	"	"	"	133
207	1	"	"	"	"	134
208	1	"	"	"	"	135
209	1	"	"	"	"	136
210	1	"	"	"	"	137
211						
212						
213	2	MANWAY PLATE 440 x 540	"	"	"	
214	28	FLAT 218 LG x 50 W	"	"	"	138
215	8	FLAT 898 LG x 50 W	"	"	"	138
216	8	FLAT 1398 LG x 50 W	"	"	"	138

This drawing and the design it covers are the property of ENGINEERS INDIA LIMITED. It may not be reproduced, copied, loaned, exhibited, or used in any way except in the limited way and for the limited use permitted by any written consent given by the lender to the borrower.

CRUDE DISTILLATION UNIT
MRL EXPN

NO	DA E	REVISIONS	BY	CHK	APPROVALS
A		ISSUED FOR APPROVAL	KLR		
0	15-6-89	ISSUED FOR CONSTN	KLR	AKH	AKH

ITEM NO	NO OFF	DESCRIPTION	THICKNESS mm	MATERIAL	PART NO. NR 5641-14-00-HM-A06 SHT NO.
217	16	FLAT 1698 LGx50W	3	A240 TYPE 4105	138
218	4	RISER 220Wx900L INSIDE 228 HT	3	A240 TYPE 4105	139
219	4	RISER 220Wx1400L INSIDE 228 HT	"	"	140
220	6	RISER 220Wx1700L INSIDE 228 HT	"	"	141
221	4	RISER 220Wx900L INSIDE 436 HT	"	"	142
222	4	RISER 220Wx1400L INSIDE 436 HT	"	"	143
223	6	RISER 220Wx1700L INSIDE 436 HT	"	"	144
224	4	RISER CAP 270Wx950L	"	"	145
225	4	RISER CAP 270Wx1450L	"	"	146
226	6	RISER CAP 270Wx1750L	"	"	147
SH4**	3	SHIM PLATES	16	"	149
SH5**	5	" "	"	"	149
SH6**	5	SHIM PLATES	16	A240 TYPE 4105	149
G1	6	GASKET 25Wx400 LG	15/20	WOVEN ASBESTOS TAPE (95% PURITY)	-
G2	2	" 25Wx520 LG	"	"	-
G3	4	" 25Wx465 LG	"	"	-
G4	2	" 35Wx460 LG	"	"	-
G5	4	" 25Wx560 LG	"	"	-
SH7**	30	SHIM PLATES	16	A240 TYPE 4105	149
SH8**	30	" "	"	"	149
SH1	40	SHIM PLATES	16	A240 TYPE 4105	148
SH2	70	" "	"	"	148
SH3*	40	" "	"	"	148

* SHIMS 'SH3' TO BE USED IN ASSEMBLY OF SUPPORT BEAMS FOR DEMISTER FOR WASH ZONE (IN G200 I D)
 ** SHIMS SH4 TO SH6 TO BE USED IN ASSEMBLY OF SPRAY HEADERS

This drawing and the design it covers are the property of ENGINEERS INDIA LIMITED. They are not to be reproduced, copied, exhibited, or used except in the limited way and private use permitted by any written consent given by the lender to the borrower. ENL 1002 A 216 X 278

**CRUDE DISTILLATION UNIT
M R L EXPN**

NO	DATE	REVISIONS	BY	CHK	APPROVALS
A		ISSUED FOR APPROVAL	JSL		
O	15/6/82	ISSUED FOR CONSTN	JSL	JSL	JSL

This drawing and the design it covers are the property of ENGINEERS INDIA LIMITED. They are hereby issued on the borrower's express agreement that they will not be reproduced, copied, loaned, exhibited or used except in the limited way and private use permitted by any written consent given by the lender to the borrower. EIL 1004 A-210 X 278

ITEM NO	NO OFF	DESCRIPTION	THICKNESS (mm)	MATERIAL
B1	92	BOLTS M10 X 36mm LONG		A193 B6X
B2	2700	BOLTS M10 X 32mm LONG		A193 B6X
B3	2792	NUTS M10		A194 G16
B4	5504	WASHERS 30 O/D X H 1/D	3	A 240 TYPE 4105
B5	—	WASHERS 25 O/D X H 1/D		
B6	—	STUDS M10 X 26mm LONG		
B7	1144	LOCK NUTS M10		A194 G16
B8	700	RECTANGULAR WASHER FOR DETAIL REFER DRG NO. 5647/14-00-HM-A026-SHT 14B	3	A 240 TYPE 4105
C1	1092	TRAY BEAM CLAMP ASSLY	TES 578 REV 1	CLAMP PLATE - 2 THK WASHERS - 3 THK CLAMP PLATE - A240 TYPE 4105 WASHERS A240 TYPE 4105 BOLTS & STUDS A193 B6X NUTS - A194 G16
C2	812	TRAY EDGE CLAMP ASSLY MARK 3		
C3	336	TRAY EDGE CLAMP ASSLY MARK 2		
C4	—	TRAY EDGE CLAMP ASSLY MARK		
C5	68	TRAY EDGE CLAMP ASSLY MARK 5		
C6	—	BEAM END SEALING CLAMP ASSLY MARK		
C7	—	BEAM END SEALING CLAMP ASSLY MARK		
C8	58	MANWAY BEAM CLAMP ASSLY		
C9	6	MANWAY EDGE CLAMP ASSLY MARK 2		
C10	—	MANWAY EDGE CLAMP ASSLY MARK		

CLAMP SYMBOLS

MARK	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
SYMBOL										



ENGINEERS INDIA LIMITED

218 HMTD-NEW DELHI

**BILL OF MATERIAL FOR
ITEM NO 15 C 15**

DRAWING NO REV

5647 14-00-HM-A016 0
SHT 20 OF 22

**CRUDE DISTILLATION UNIT
MRL EXPN**

NO	DATE	REVISIONS	BY	CHK	APPROVALS
A		ISSUED FOR APPROVAL	<i>[Signature]</i>		
O	15-68	ISSUED FOR CONSTN	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

This drawing and the design it covers are the property of ENGINEERS INDIA LIMITED. They are not to be reproduced, copied, or used in any way without the written consent of the lender to the borrower. EIL 1004 A-216 X-278

ITEM NO.	NO OFF	DESCRIPTION	THICKNESS (mm)	MATERIAL
09	128	BOLTS M20x70mm LONG	—	A193 B6 X
10	128	NUTS M20	—	A194 GYG
11	256	WASHER 50 SQ (WITH 21Φ HOLE)	3	A240 TYPE 4105
12	128	LOCK NUTS M20	—	A194 GYG
0	—	WASHERS 25 O/D X H 1/0		
0	—	STUDS M10 X 25mm LONG		
C1		TRAY BEAM CLAMP ASSLY	T ES REV.	CLAMP PLATE - TMK
C2		TRAY EDGE CLAMP ASSLY MARK		WASHERS - TMK
C3		TRAY EDGE CLAMP ASSLY MARK		CLAMP PLATE -
C4		TRAY EDGE CLAMP ASSLY MARK		WASHERS
C5		TRAY EDGE CLAMP ASSLY MARK		WELDED STUDS -
C6		BEAM END SEALING CLAMP ASSLY MARK	T ES 544	NUTS -
C7		BEAM END SEALING CLAMP ASSLY MARK	REV	
C8		MANWAY BEAM CLAMP ASSLY	T ES REV.	CLAMP PLATE
C9		MANWAY EDGE CLAMP ASSLY MARK		STUDS
C10		MANWAY EDGE CLAMP ASSLY MARK		NUTS -

CLAMP SYMBOLS

MARK	C1	C2	C3	C4	C6	C8	C7	C8	C9	C10
SYMBOL										



ENGINEERS INDIA LIMITED

HMTD-NEW DELHI

**BILL OF MATERIAL FOR
ITEM NO 15 C-15**

DRAWING NO

REV

5647 14-00 HM-A016
SHT 21 OF 22

0